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CURRENT OPERATION OF THE CHUSOVOY METALLURGICAL PLANT

The Chusovoy Plant, Molotov Oblast, has a special place in USSR metallurgy; it smelts pig iron from the titano-magnetites of the Urals. This pig iron is converted in open-hearth furnaces and Bessemer converters and the steel is then rolled into various profiles for the automobile industry, machine and railroad-car building, and for other needs of the national economy. The vanadium slag formed at the plant is reprocessed into ferrovanadium at the ferroalloy plant. The whole process has developed to such an extent that the former ferroalloy shop is now an independent enterprise. With 1940 taken as 100 percent, the production of pig iron at the plant in 1946 was 295 percent, steel 281 percent, vanadium slag 278 percent, and rolled products 139 percent.

As the duplex process has developed, the plant has gradually become independent of outside imports of ingots and stock. In 8 months of 1947, no ingots were imported and the proportion of imported stock was 19 percent of the total rolled metal because of increasing consumption, but in July and August imports decreased to 16 percent. Soon the plant will not have to import any metal from outside, except for stock of certain electric steels.

The plant is the first in the USSR to use the duplex process of smelting steel and in continually improving the technology of producing vanadium slag and steel from low-alloy vanadium pig iron. During the war, the plant started production of sinter with the use of vanadium-bearing chemical waste products of ferroalloy production. At first the considerable chromium content of these waste products did not permit production of a satisfactory sinter and its use in smelting was limited. At present, however, by selection of the proper charge, a sinter of the necessary quality is being obtained. The blast-furnace shop has doubled its consumption without decreasing the content of the main element in the pig iron. Complete operation of the sinter plant has resulted in utilization of all chemical waste products as well as of all flue dust, and the formerly necessary consumption of coke fines in producing the sinter has been eliminated.

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The duplex-process shop has started production of silicon spring steel and other grades of quality steel. Production of the quality grades of steel has increased 60 percent as a result of a decrease of 10 percent in the smelting time of common as well as quality grades of steel.

With production of steel and vanadium slag in the duplex-process shop in November 1946 taken as 100 percent, production in August 1947 reached 210 percent.

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